

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/041332 A3

(51) International Patent Classification⁷: **HOLM 8/02, 8/10**

(21) International Application Number:
PCT/EP2004/01 1568

(22) International Filing Date: 14 October 2004 (14.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2003A001972 14 October 2003 (14.10.2003) IT

(71) Applicant (for all designated States except US): **NUVERA FUEL CELLS EUROPE S.R.L.** [IT/IT]; Via Bistolfi, 35, 1-20134 Milan (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MERLO, Luca** [IT/IT]; Via Molera, 12, 1-22030 Montorfano (IT). **FACCHELLI, Daniele** [IT/IT]; Via S. Anna, 17, 1-25038 Rovato (IT). **MAGGIORE, Antonio** [IT/IT]; Via Eustachi, 20, 1-20133 Milano (IT). **FAITA, Giuseppe** [IT/IT]; Via Rivolta, 15, 1-28100 Novara (IT).

(74) Agent: **REITSTÖTTER-KINZEBACH** (Z217); Reitstötter, Kinzebach & Partner (GbR), Sternwartstrasse 4, 81679 München (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

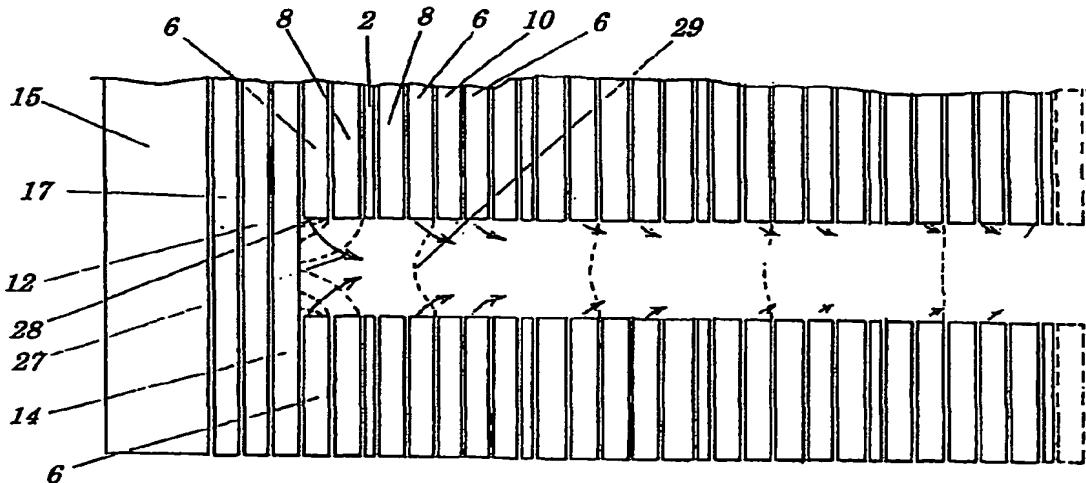
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
26 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROCHEMICAL GENERATOR



(57) Abstract: The invention describes a new design of ionomer membrane fuel cell stack comprising a multiplicity of stainless steel bipolar plates, electrodes, membranes and perimetrical sealing gaskets enclosed between compression plates. The novel design is directed to prevent the build up of metal ions in the membranes and the consequent voltage decay; for this purpose, the lateral migration inside the ionomer membranes of the metal ions contained in the cooling fluid is prevented.

WO 2005/041332 A3